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Genus *Lobesia* Guenée (Lepidoptera, Tortricidae) from Borneo, with description of one new species

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Abstract One new species, *Lobesia (Lomaschiza) bisyringnata* sp. nov., is described and three species, *L. (Lom.) fetialis* (Meyrick), *L. (Lobesia) montana* Diakonoff and *L. (Lob.) transtrifera* (Meyrick), are newly recorded from Borneo. The male of *L. (Lob.) montana* is described for the first time.

Key words Lepidoptera, Tortricidae, *Lobesia*, *Lobesia (Lomaschiza) bisyringnata* sp. nov., Borneo, taxonomy.

The genus *Lobesia* Guenée belonging to the subfamily Olethreutinae consists of very pretty and small species. More than 30 species of the genus have been known from Southeast Asia, of which only one species, *L. lithogonia* Diakonoff, was recorded from Borneo by Diakonoff (1954). I examined the specimens of *Lobesia* from Borneo in the collection of the Entomological Laboratory, University of Osaka Prefecture, Sakai, and concluded that these specimens include one new species and three newly recorded species from Borneo. In this paper, *Lobesia* from Borneo is reviewed with the description of the new species.

Lobesia (Lomaschiza) fetialis (Meyrick) (Figs. 1, 8, 13, 14)

Polychrosis fetialis Meyrick, 1920, *Exot. Microlepid.* **2**: 346; Fletcher, 1921, *Mem. Dep. Agric. India* (Ent. Ser.) **6**: 53.

Lobesia fetialis: Fletcher, 1932, *Imp. Counc. Agric. Res., Sci. Monogr.* (2): 27; Diakonoff, 1950, *Bull. Br. Mus. nat. Hist.* (Ent.) **1**: 292, pl. 3, fig. 6, pl. 4, fig. 12; Clarke, 1958, *Cat. Type Specimens Microlepid. Br. Mus. descr. E. Meyrick* **3**: 468, pl. 233, figs. 1-1a.

Lobesia (Lomaschiza) fetialis: Diakonoff, 1954, *Zool. Verh. Leiden* (22): 19, figs. 16, 18, pl. 3, figs. 2, 3; Diakonoff, 1973, *Zool. Monogr. Rijksmus. nat. Hist.* **1**: 378; Diakonoff, 1982, *Zool. Verh. Leiden* (193): 71; Bae, 1993, *Microlepid. Thai.* (3) (in press).

Lobesia aeolopa: Fletcher, 1921, *Mem. Dep. Agric. India* (Ent. Ser.) **6**: 54, 200, pl. 61, fig. 1 (nec Meyrick, 1907).

For the morphological characters including genitalia see Diakonoff (1954).

Wing-expanse: ♂ 11.5 mm. Wings: Fig. 1.

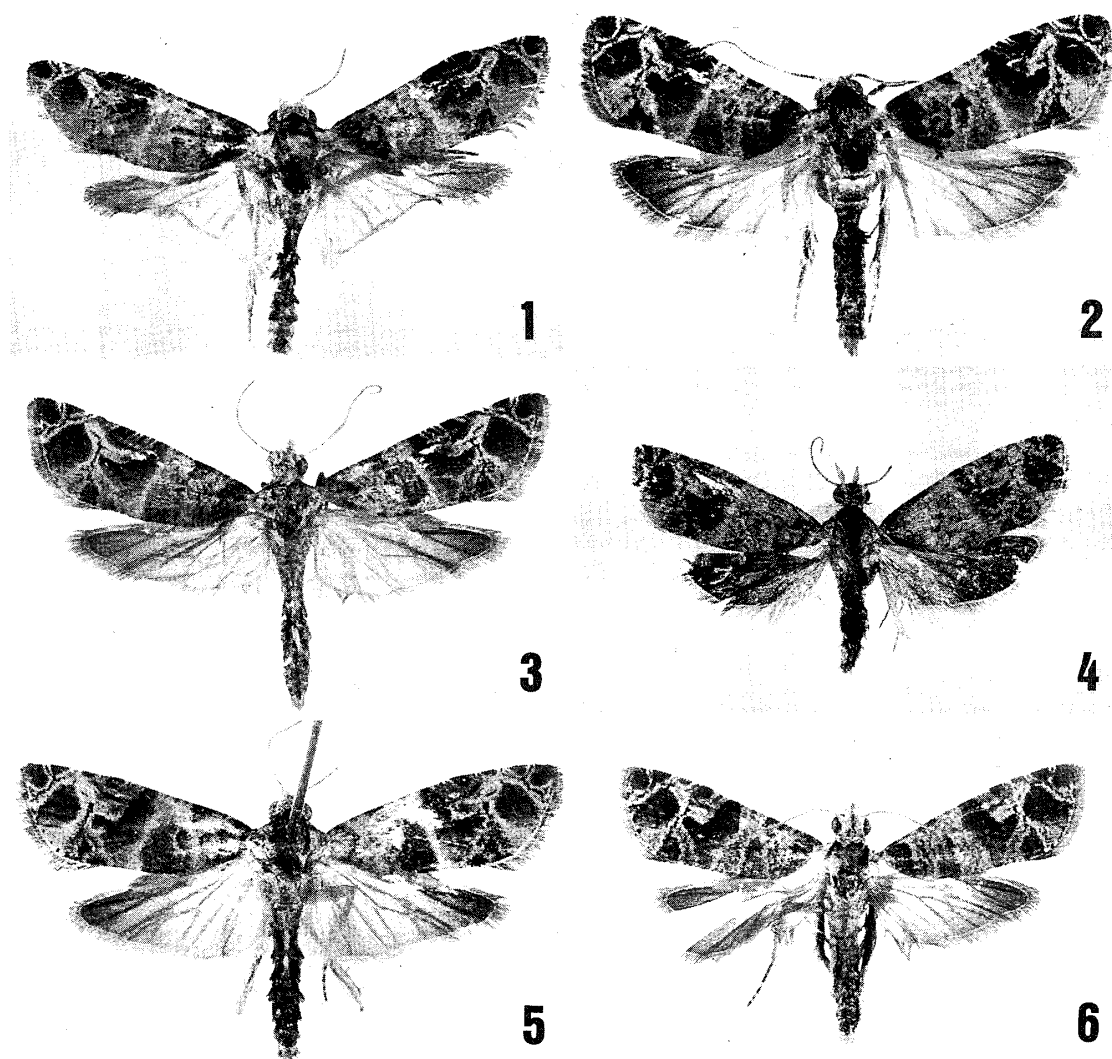
Abdominal scent pouches in male: Fig. 8.

Genitalia: ♂ as in Figs. 13, 14.

Material examined. 1 ♂, Crocker Range (1400 m), N.W. of Keningau, Sabah, 20-25. IV. 1983 (S. Nagai).

Distribution. India, Sri Lanka, Thailand, Sumatra, Java, Borneo (Sabah) and New Guinea.

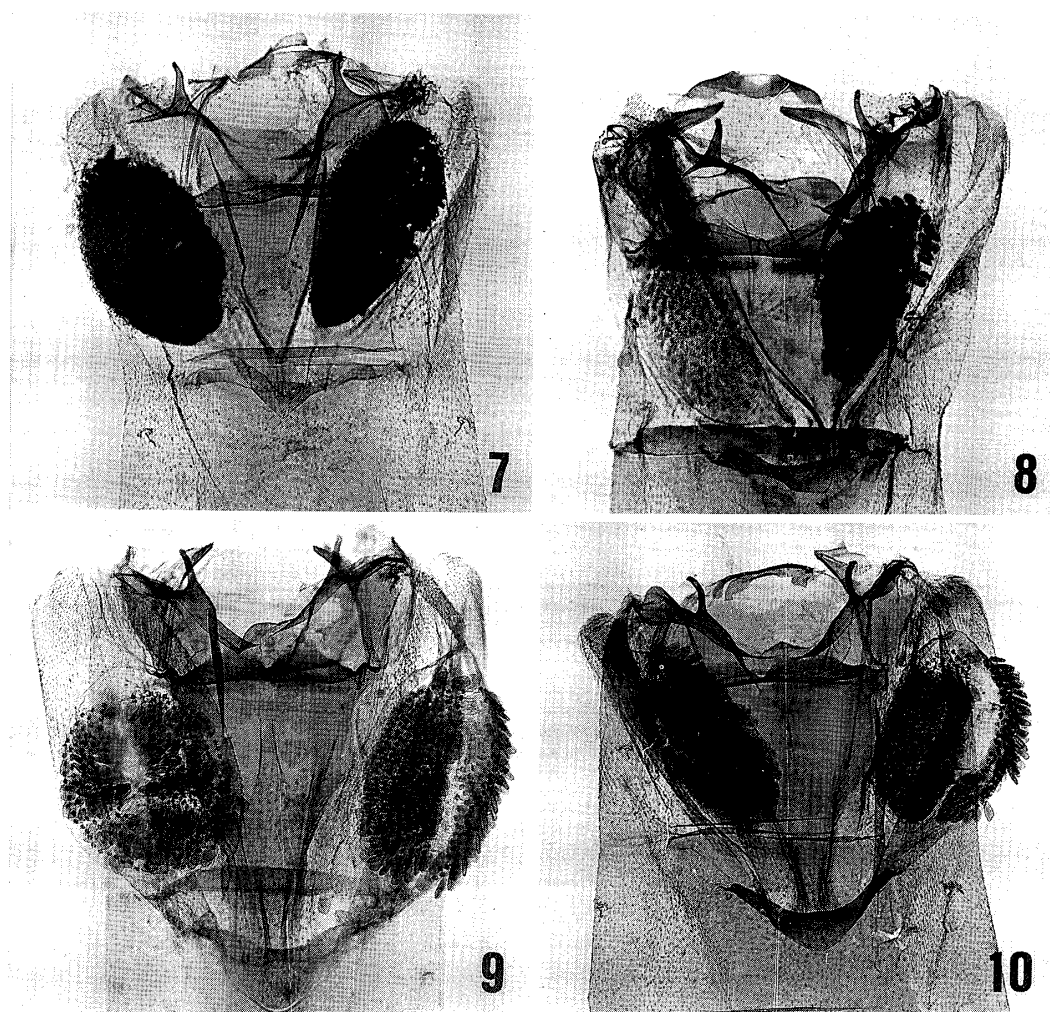
Host plant. Unknown in Borneo. *Leucas* sp. (Labiateae) in India (Meyrick, 1920). Flowers of *Evodia accedens* Blume (Rutaceae), fresh fruit and flowers of ? *Bridelia* sp. (Euphor-



Figs. 1-6. Adults of *Lobesia*. 1. *L. (Lomaschiza) fetialis* (Meyrick), ♂. 2. *L. (Lom.) bisyringnata* sp. nov., ♂, holotype. 3. *L. (Lobesia) montana* Diakonoff, ♂. 4. Ditto, ♀. 5. *L. (Lob.) lithogonia* Diakonoff, ♂. 6. *L. (Lob.) transtrifera* (Meyrick), ♂.

biaceae), living fruit of *Lantana camara* Linn. (Verbenaceae), flowers of *Clerodendron serratum* Spreng (Verbenaceae), fruit of ?*Tarenna incerta* Koord (Rubiaceae), leaves of *Barringtonia spicata* Blume (Lecythidaceae), fruit of *Allophylus cobbe* Linn. (Sapindaceae), flower bud of *Tasminum sambac* (Oleaceae), flowers of "gadel", "krandang", "sobah" and fruits of "gimpol" in Java (Diakonoff, 1954).

Remarks. This species is recorded for the first time from Borneo. It is superficially very similar to *L. (Lomaschiza) genialis* Meyrick distributed in Thailand and Sri Lanka. The two species can be easily separated by the following characters of genitalia: (i) in *fetialis* the lower angle of the cucullus is smooth, while in *genialis* it is projecting, (ii) in *fetialis* the anterior part of the sterigma is almost straight, but that of *genialis* is concave. This species is also related to the following species, *L. bisyringnata* sp. nov., but is easily recognizable by its peculiar shape (produced apex) of male hind wing.

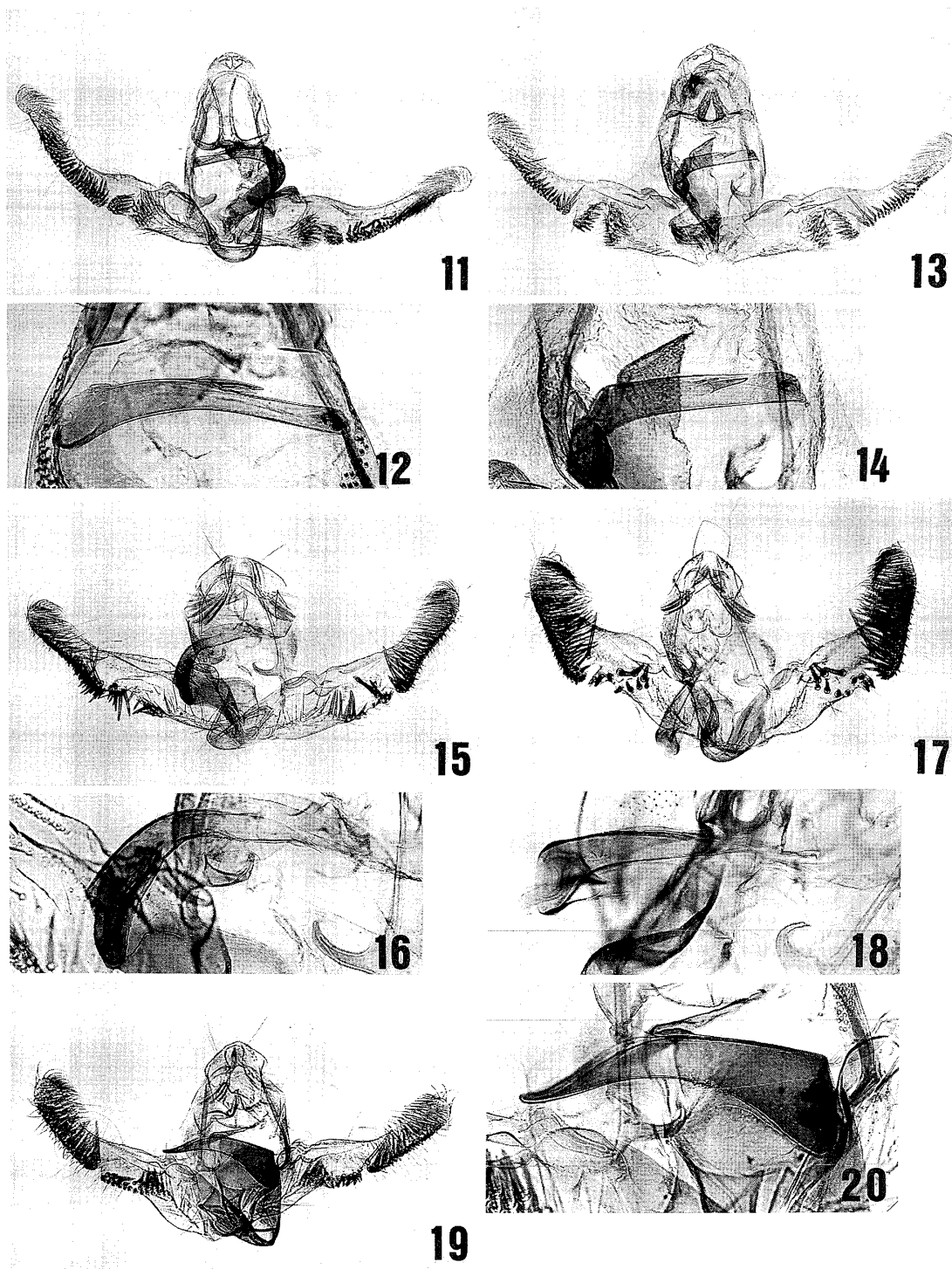


Figs. 7-10. 1st to 2nd abdominal pouches of male *Lobesia*, ventral view. 7. *L. (Lomaschiza) bisyringnata* sp. nov., holotype. 8. *L. (Lom.) fetalis* (Meyrick). 9. *L. (Lobesia) montana* Diakonoff. 10. *L. (Lob.) transtrifera* (Meyrick).

***Lobesia (Lomaschiza) bisyringnata* sp. nov.** (Figs. 2, 7, 11, 12)

Wing-expanse: ♂ 11-12.5 mm. Wings: Fig. 2. Head white ocherous; vertex mixed with brownish gray scales. Antenna pale ocherous, annulated with dark gray. Labial palpus pale ocherous; median segment suffused with dark gray; terminal segment exposed and drooping. Thorax ocherous, mixed with blackish brown, with deep brown crest. Tibial hair pencil of hind leg long (as long as tibia), pale ocherous.

Fore wing broad, elongate-ovate; costa almost straight, gently convex before apex; pterostigma elongate, with costal edge distinctly prominent; apex rounded; termen gradually rounded. Ground color white ocherous, suffused with dark plumbeous. Costa with five pairs of creamy white streaks along the apical half of costa. Markings grayish ocherous; basal patch strigulated with dark gray and suffused with plumbeous, angulated in the outer edge; central fascia subtriangular, the inner edge straight, the outer edge strongly angulated in the middle, the upper half serrulate, irregularly margined with dark fuscous color; pretornal patch large, subtriangular, suffused with fuscous; terminal patch rounded, narrowly extending to costa; apical spot ovate, surrounded by a fuscous line.



Figs. 11-20. Male genitalia of *Lobesia*, ventral view. 11. *L. (Lomaschiza) bisyringnata* sp. nov., holotype. 12. *Ditto*, aedeagus. 13. *L. (Lom.) fetalis* (Meyrick). 14. *Ditto*, aedeagus. 15. *L. (Lobesia) montana* Diakonoff. 16. *Ditto*, aedeagus. 17. *L. (Lob.) lithogonia* Diakonoff. 18. *Ditto*, aedeagus. 19. *L. (Lob.) transtrifera* (Meyrick). 20. *Ditto*, aedeagus.

Cilia sordid fuscous ochereous, with a dark brownish subbasal line. Hind wing elongate-ovate, with pointed apex, grayish brown, becoming apically darker. Cilia pale grayish brown, with a grayish brown subbasal line.

Abdomen fuscous gray, ventrally whitish ochereous, with pale ochereous anal tuft.

Abdominal scent pouches (Fig. 7) large, elongate, densely filled with brownish ocher scales.

Male genitalia : Figs. 11, 12. Tegumen with slightly projected top, clothed with a cluster of long filiform scales; uncus vestigial; socius small, represented by a subtriangular projection at each side, bearing a group of spines (not scale-like); gnathos well-sclerotized, laterally projected, with numerous minute aciculae in the middle, the upper edge bearing a pair of long tusk-like processes. Valva long; cucullus narrow, furnished with a group of dense spines on the lower portion; sacculus broad, sclerotized, separated from cucullus by an incision at the lower margin; spine cluster Spc_1 rounded, separated from spine cluster Spc_2 . Aedeagus long, slightly curved, with carina penis consisting of one large and four small stout spines; cornuti absent. Caulis long (as long as aedeagus).

Female. Unknown.

Material examined. Holotype. ♂, Crocker Range (1400 m), Sabah, Borneo, 20-25. IV. 1983 (S. Nagai), Gen. sl. no. Bae 92-L143; deposited in the collection of the Entomological Laboratory, University of Osaka Prefecture, Sakai. Paratypes. 3 ♂, same data as holotype.

Distribution. Borneo (Sabah).

Host plant. Unknown.

Remarks. This species is characterized by the following characters of male genitalia : (i) socius is small, bearing a group of spines, (ii) gnathos is well-sclerotized, with a pair of long tusk-like processes on its upper edge, (iii) aedeagus has carina penis consisting of one large and four small stout spines.

Lobesia (Lobesia) montana Diakonoff (Figs. 3, 4, 9, 15, 16, 21)

Lobesia (Lomaschiza) montana Diakonoff, 1954, *Zool. Verh. Leiden* (22): 35, fig. 13.

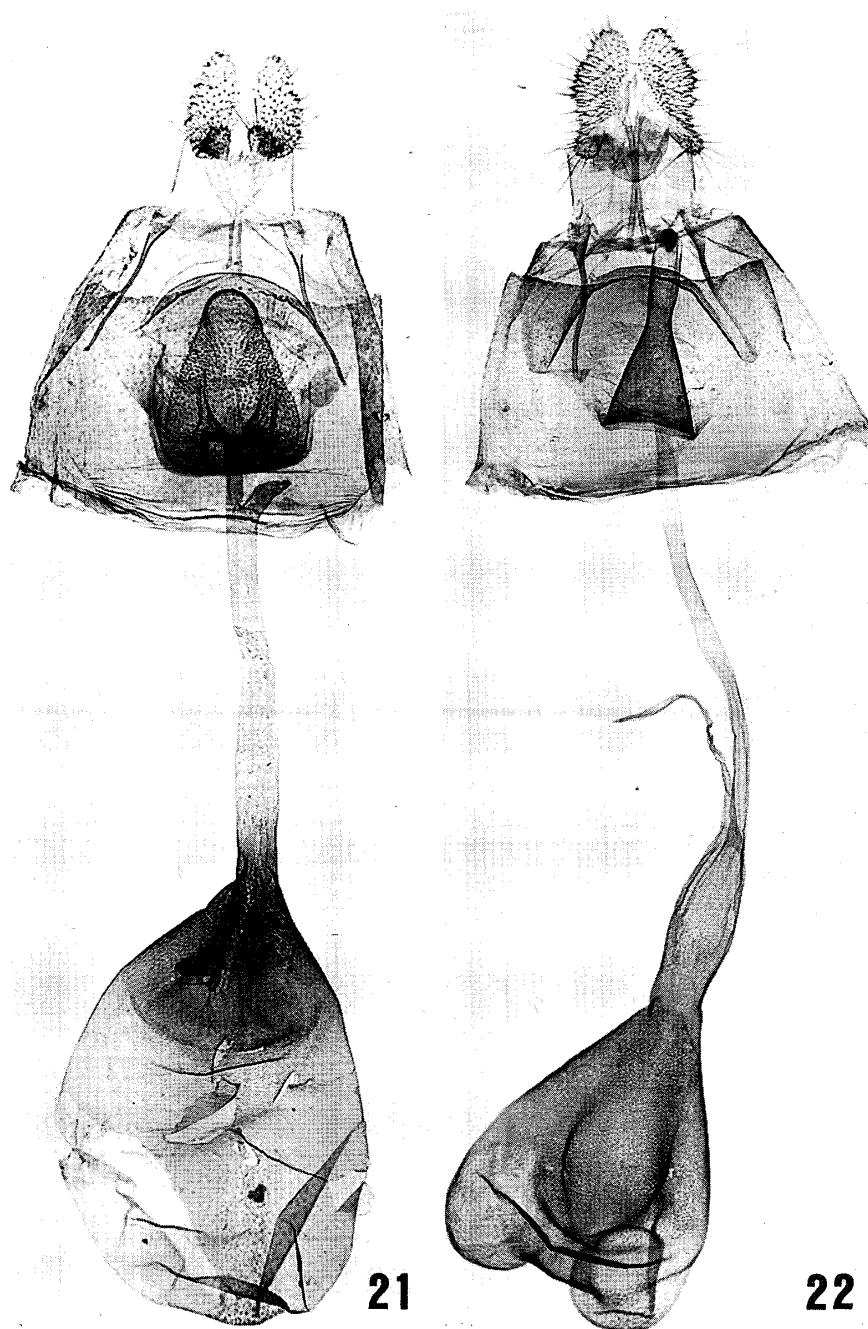
This species is originally described based on the female specimens, but the male and male genitalia have not previously been described and figured.

Wing-expanse : ♂ 12-13 mm, ♀ 10-12 mm. Wings : Figs. 3, 4.

Abdominal scent pouches in male : Fig. 9.

Male similar to female, but pterostigma stronger than in female.

Male genitalia : Figs. 15, 16. Tegumen with slightly concave top, laterally clothed with a cluster of long filiform scales; uncus vestigial; socius drooping, with a group of modified scales; gnathos membranous. Valva long; cucullus rather narrow, furnished with a group of dense spines on the lower portion; sacculus broad, weakly sclerotized, separated from cucullus by an incision at the lower margin; spine cluster Spc_1 consisting of three to four long and 10-12 short stout spines; spine cluster Spc_2 separated from Spc_1 , consisting of 12-14 long spines. Aedeagus long, strongly curved at the middle, tapering distally, with



Figs. 21-22. Female genitalia of *Lobesia*, ventral view. 21. *L. (Lobesia) montana* Diakonoff. 22. *L. (Lob.) lithogonia* Diakonoff.

17-21 minute dents on the ventral side of its middle portion; cornuti absent. Caulis about 0.7 time as long as aedeagus.

Female genitalia: as in Fig. 21

Material examined. 1 ♀, Crocker Range (1400 m), N.W. of Keningau, Sabah, 20-25. IV. 1983 (S. Nagai); 1 ♂ 2 ♀, same locality, 13-20. V. 1983 (S. Nagai).

Distribution. Java, Borneo (Sabah).

Host plant. Unknown.

Remarks. This species is new to the Borneo fauna. Transferred from the subgenus *Lomaschiza*, *montana* Diakonoff is placed in the subgenus *Lobesia* by the characters of the male genitalia. *L. (Lob.) montana* is distinguished from the other species of the subgenus *Lobesia* by the following genitalic characters: (i) aedeagus is long, strongly curved at middle, bearing 17-21 minute dents on the ventral side of its middle, (ii) limen has a short broad lobe on each side, (iii) sterigma is aciculate (including near ostium area).

Lobesia (Lobesia) lithogonia Diakonoff (Figs. 5, 17, 18, 22)

Lobesia (Lobesia) lithogonia Diakonoff, 1954, *Zool. Verh. Leiden* (22): 49, figs. 20, 21, 26; Diakonoff, 1956, *Verh. Naturf. Gs. Basel* 67: 60; Diakonoff, 1973, *Zool. Monogr. Rijksmus. nat. Hist.* 1: 382, 383; Diakonoff, 1982, *Zool. Verh. Leiden* (193): 71; Bae, 1993, *Microlepid. Thai.* (3) (in press).

For the description of this species see Diakonoff (1954).

Wing-expanse: ♂ 11.5-13 mm, ♀ 10-11 mm. Wings: Fig. 5.

Genitalia: ♂ as in Figs. 17, 18; ♀ as in Fig. 22.

Material examined. 1 ♂, Crocker Range (1400 m), N.W. of Keningau, Sabah, 13-20. V. 1983 (S. Nagai); 2 ♂, Brumas, Tawau, Sabah, 23. VII. 1981 (T. Yasuda); 1 ♀, Tinanaman-tawarn, near Sepilok, Sandakan, Sabah, 1. II. 1983 (S. Nagai).

Distribution: Sri Lanka, Thailand, Java, Borneo and New Guinea.

Host plant. Unknown in Borneo. *Eugenia densiflora* Willd (Myrtaceae) in Java (Diakonoff, 1954).

Remarks. This species is widely distributed throughout Southeast Asia. *L. (Lob.) lithogonia* resembles *L. (Lob.) aeolopa* Meyrick, but can be easily distinguished from it by the following genitalic characters (Figs. 13, 18, 22): (i) in *lithogonia* valva is short and broad, while in *aeolopa* it is long and narrow, (ii) in *lithogonia* sterigma is long, but that of *aeolopa* is short.

Lobesia (Lobesia) transtrifera (Meyrick) (Figs. 6, 10, 19, 20)

Polychrosis transtrifera Meyrick, 1920, *Exot. Microlepid.* 2: 346.

Lobesia (Lobesia) transtrifera: Diakonoff, 1954, *Zool. Verh. Leiden* (22): 53; Bae, 1993, *Microlepid. Thai.* (3) (in press).

Lobesia transtrifera: Clarke, 1958, *Cat. Type Specimens Microlepid. Br. Mus. descr. E. Meyrick* 3: 475, pl. 236, figs. 4-4b.

For the description of this species see Bae (1993).

Wing-expanse: ♂ 11.5 mm. Wings: Fig. 6.

Genitalia: ♂ as in Figs. 19, 20.

Material examined. 1 ♂, Crocker Range (1400 m), N.W. of Keningau, Sabah, 13-20. V. 1983 (S. Nagai).

Distribution. Thailand, Borneo (Sabah) and Australia.

Host plant. Unknown.

Remarks. This species is first recorded from Borneo. It was originally described by Meyrick (1920) based on one female specimen taken from Australia. The male of this species has recently been described from Thailand by Bae (1993).

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摘 要

1 新種の記載を含むボルネオ産の *Lobesia* Guenée 属 (鱗翅目, ハマキガ科) (裴 良燮)

Lobesia 属はヒメハマキガ亜科に属し, 東南アジアからは現在までに 30 種以上が記録されているが, ボルネオからは Diakonoff (1954) によって 1 種, *L. lithogonia* Diakonoff, が記録されているにすぎない. 今回, 大阪府立大学昆虫学研究室に所蔵されているボルネオ産の標本を検討した結果, 従来知られていた種以外に, 1 新種と 3 新記録種を含む計 5 種を認めた.

1. *Lobesia* (*Lomaschiza*) *fetialis* (Meyrick)

本種とタイ, スリランカに分布する *L. (Lom.) genialis* Meyrick は外見上は区別できないが, 本種では雄交尾器の cucullus の基部が突出しないこと, 雌交尾器の sterigma の前方部がまっすぐであることから区別できる. また, *L. (Lom.) bisyringnata* sp. nov. と類似するが, 本種の雄は後翅の翅頂が突出するため区別できる.

分布: インド, スリランカ, タイ, スマトラ, ジャワ, ボルネオ (新記録), ニューギニア.

2. *Lobesia (Lomaschiza) bisyringnata* Bae (新種)

次の雄交尾器の形態的特徴によって本亜属の他種から区別できる ; (i) socius は小さく, 刺をもつ, (ii) gnathos は強く硬化し, 2 つの長い牙のような突起物をもつ, (iii) aedeagus は太い刺状の carina penis をもつ, そのうちの 1 つは大きく, 他の 4 つは小さい.

分布: ボルネオ.

3. *Lobesia (Lobesia) montana* Diakonoff

ジャワから得られた雌のみによって *Lomaschiza* 亜属の 1 種として記載された. 今回, 初めてその雄を記載した. 雄交尾器の特徴によって *Lobesia* 亜属であることが明らかになった.

分布: ジャワ, ボルネオ (新記録).

4. *Lobesia (Lobesia) lithogonia* Diakonoff

本種と *L. (Lob.) aeolopa* Meyrick は外見での区別は難しいが, *aeolopa* とは雄交尾器の valva が短くて幅広いこと, 雌交尾器の sterigma は長いことから区別できる.

分布: スリランカ, タイ, 台湾, ジャワ, ボルネオ, ニューギニア.

5. *Lobesia (Lobesia) transtrifera* (Meyrick)

オーストラリアから得られた 1 雌によって記載された. その後, Bae (1993, 印刷中) がタイから雄を記載した.

分布: タイ, ボルネオ (新記録), オーストラリア.

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